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The Effect of Reading Deficiency Upon Scholastic Achievement and Personal Adjustment in College

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THE EFFECT OF READING DEFICIENCY
UPON SCHOLASTIC ACHIEVEMENT AND
PERSONAL ADJUSTMENT IN COLLEGE

by

WILLIAM FRANKLIN STONE

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS
OF THE
COLLEGE OF WILLIAM AND MARY
FOR THE DEGREE
MASTER OF EDUCATION

1 9 5 1

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CHAPTER . I

INTRODUCTION

Statement of the Problem. It has been assumed that reading deficiency has adverse effects upon personal adjustment and scholastic achievement in college; therefore, the purpose of this study was to ascertain the effect a deficiency in reading ability, as revealed by scores made on the Diagnostic Reading Test, Survey Section, Form A, had upon scholastic achievement and personal adjustment within a selected group of students at The College of William and Mary.

Significance of the Study. The results of this study can possibly be used by counselors and others interested in the optimum achievement of students at The College of William and Mary.

Furthermore, apparently there has been a lack of similar research among other institutions in the nation. Relative to this lack of information Shafer has made the following observation;

Achievement in the tool subjects such as reading, English, and mathematics has been recognized for some time as being of the utmost importance to scholastic success in college. Despite the common recognition of the problem, however, the literature in the field lacks exact facts and descriptive information regarding the specific effects of deficiencies in tool subjects.¹

¹ Robert H. Shafer, " The Effect of English Deficiency Upon a Student's Adjustment in College," Bulletin of the School of Education Indiana University, Vol. 24, No. 1, January 1948. 34 pp.

It is hoped that this study may provide a minor contribution to the body of facts regarding the specific effects of deficiencies in reading to which Shaffer referred as one of the tool

DEFINITIONS OF TERMS USED

Scholastic Achievement. Scholastic achievement in this study was judged by comparing the quality point average and the mean Scholastic Achievement. Scholastic achievement in this study was judged by comparing the quality point average and the mean number of hours passed successfully by the selected group of students for each of three semesters at The College of William and Mary.

Quality Points. Quality points at The College of William and Mary are determined by numerical values assigned letter grades made in a course. For an A grade in a one hour course a student receives three quality points, two quality points are gained by making a B grade in a one hour course, and one quality point is given for a C grade in a one hour course. For a D or F grade a student receives no quality points, but is considered to have passed the course in which the D grade is made and to have failed the course in which an F is made.

Personal Adjustment. An estimation of the personal adjustment of each student was secured by administering the Bell Adjustment Inventory which purports to measure the areas of home, health, social, and emotional adjustment.

Procedure of the Study. To each new student at The College of William and Mary each September is administered the Ohio

State University Examination, Form 21 and the Diagnostic Reading Test, Survey Section, Form A. This study was based on the results of these two tests given in September of 1949.

For the purpose of this investigation a group of 39 students who ranked below the 25th percentile on the Diagnostic Reading Test, Survey Section, Form A and who ranked above the 25th percentile on the Ohio State University Psychological Examination, Form 21, was selected. In this study any student who ranked below the 25th percentile on the Diagnostic Reading Test, Survey Section, Form A was considered deficient in reading ability, and any student who ranked above the 25th percentile on the Ohio State University Psychological Examination, Form 21, was considered competent of attaining satisfactory scholastic achievement. This group of 39 students will be spoken of throughout the study as the deficient group.

In order to have a group with which to compare the deficient group a group termed non-deficient was selected. Each deficient student was matched with a non-deficient student on the following bases: (1) the non-deficient student was within five raw score points of the deficient student on the Ohio State University Psychological Examination, Form 21; (2) the non-deficient student made a score on the Diagnostic Reading Test, Survey Section, Form A, which placed him above the 25th percentile on that test; (3) each non-deficient student was near the same age as the deficient student

with whom he was matched; and (4) each deficient student was matched with a non-deficient student of the same sex.

The three successive semesters mentioned throughout this study were: the first semester was the fall semester of 1949-50; the second semester was the spring semester of 1949-50; and the third semester the fall semester of 1950-51. This study was begun during the third semester, or in the fall, of 1950-51.

The following symbols are used in the tables throughout this study:

Number of cases	.....	N
Mean of a sample	.....	M
Standard Deviation	.....	SD
Standard error of the difference between two means	.....	SX
Critical Ratio	.....	CR
Deficient Group	.....	D
Non-Deficient Group		ND
.05 Level of Confidence	.....	.05

That the deficient and non-deficient groups were alike with respect to age and aptitude for college achievement and were different in reading ability is indicated by the critical ratios in Table I. With 75 degrees of freedom the critical ratios would have to have equalled or exceeded 2.00 for these ratios to be significant. Since a critical ratio of 8.931 was obtained for the two groups in

the area of reading ability it is practically certain that a significant difference existed here. The critical ratios derived from the scores of the two groups on the Ohio State University Psychological Examination, Form 21, and for age of the two groups were less than 2.00. It may be assumed, therefore, that there was no significant difference between the two groups in either of these two areas.

TABLE I

MEAN OF RAW SCORES ON THE OHIO STATE UNIVERSITY
PSYCHOLOGICAL EXAMINATION, FORM 21, THE DIAGNOSTIC
READING TEST, SURVEY SECTION, FORM A, AND AGE

AREA	GROUP	N	M	SD	SX	CR	.05 Level
Ohio State University Psychological Examination, Form 21	D	39	86.800	11.95	2.705	.284	2.00
	ND	39	87.579				
Diagnostic Reading Test Survey Section Form A	D	39	63.100	7.69	1.741	8.931	2.00
	ND	39	78.650				
Age	D	39	19.2750	1.17	.264	.378	2.00
	ND	39	19.1750				

Scholastic achievement in this study was judged by comparing the quality point average and the mean number of hours passed by the deficient and non-deficient groups for each of three semesters at The College of

William and Mary.

An estimate of the personal adjustment of each student was secured from the results of the Bell Adjustment Inventory which was administered to all the students involved in this study during the fall semester of 1950-51. The results obtained by administering the Bell Adjustment Inventory to the deficient group were compared with the results of this instrument for the non-deficient group in order to discover any differences between the two groups which might occur in the areas covered by this inventory.

The Wrenn Study Habits Inventory was administered to both deficient and non-deficient groups during the fall semester of 1950-51. This was done to determine if the two groups were alike with regards to study habits. Then, should any difference arise between the groups in the area of scholastic achievement it could better be determined if the difference was due to reading disability or should be attributed to ineffective study habits.

Survey of Related Literature. That scholastic achievement in college correlates positively with reading ability is substantiated by Anderson and Dearborn who reported that:

... There is still a positive relationship between reading ability and college achievement, even when only such differences as vary independently of intelligence are considered. The fact that marks, which are well known to be unreliable, were used to measure achievement has probably made this relationship appear less close than it really is. Limitations on the part of the reading test used might also have contributed to that end.

Despite these limiting conditions, however, our results are still sufficiently conclusive to justify the attention which is currently being given to the reading problems of college students.²

Humber in a study done at the University of Minnesota, also agrees that scholastic achievement in college depends greatly upon reading ability. He reported:

In this study it becomes clear that when a student at the University of Minnesota reaches the senior year of a certain curriculum he finds that the difference between an A and a C grade is less dependent upon scholastic aptitude than upon other factors such as reading efficiency. This should not be taken to signify that intelligence is less important than reading skills in the senior year of college. It does suggest, however, that by the time the senior year is attained the students within a curriculum are so homogeneous with reference to scholastic aptitude that other factors such as reading efficiency make the difference between high and low scholarship.³

Some research workers seem to agree that there is a positive correlation between reading ability and emotional adjustment at the college level. Burfield, for example, summarized his findings about emotional problems of the poor reader in college by saying:

² Irving H. Anderson and Walter F. Dearborn, "Reading Ability as Related to College Achievement," The Journal of Psychology, 11:396, April, 1941.

³ Wilbur J. Humber, "The Relationship Between Reading Efficiency and Academic Success in Selected University Curricula," Journal of Educational Psychology, 35:26, January, 1944.

Each emotional pattern was unique, and called for distinctive treatment.

The most common cause of emotional disturbance was the difficulty experienced in making adjustment to the scholastic requirements of the college.

The most frequent manifestations of an emotional disturbance were anxiety, fear, and withdrawal.

The reading problem of the mature student was often one of morale.⁴

Wiksell's findings were similar to Burfield's. He found that:

The child with retarded reading habits has a potentially maladjusted personality. Because of this retardation in reading his course work is difficult for him. Soon he is one or more years behind his classmates; or if he is not, he is having such a difficult time keeping up with his classmates that he has little or no time for his other activities. Furthermore, he loses interest in his class work. This may lead to or result in inferiority complexes, frustrations, or compensations. In all probability he may never reach college; but if he does, he finds it difficult to get along with his classes or this psychological maladjustment creeps out in innumerable other guises.⁵

From the survey of literature presented it seems that a deficiency in reading ability is commonly assumed to be associated with scholastic or psychological maladjustment.

⁴ Leone W. Burfield, "Emotional Problems of Poor Readers Among College Students," Supplementary Educational Monographs, p. 129, published in conjunction with The Elementary School Journal and The School Review, June 1949, Number 68, The University of Chicago Press, Chicago, Illinois, 173 pp.

⁵ Wesley Wiksell, "Reading Deficiencies and Psychological Adjustment," Journal of Educational Research, pp. 329-341, March, 1948.

Statement of Organization. The remainder of this study is organized as follows:

Chapter II presents the data concerning scholastic achievement and the findings obtained from the Bell Adjustment Inventory and the Wrenn Study Habits Inventory.

Chapter III is a summary of findings and conclusions.

CHAPTER II

PRESENTATION OF DATA

The scholarship of the deficient and non-deficient groups was compared as to the mean number of quality points made for each semester and mean number of hours passed successfully for each of three semesters at The College of William and Mary. The information concerning scholarship of the deficient and non-deficient groups based upon hours passed successfully and quality points made was secured from the student records in the Registrar's office.

Required Physical Education for men and women was not included in the hours passed, and Military Science and Tactics courses were excluded because they were not considered to be courses in which successful achievement depended materially upon reading ability. Success in academic courses was considered to be partially dependent upon reading efficiency.

Mean Number of Hours Passed Successfully. Table II shows obtained data regarding the mean number of hours passed successfully by deficient and non-deficient students for three semesters at The College of William and Mary.

Table II reveals that the deficient students passed a greater mean number of hours the fall semester of 1949-50 than did the non-deficient students, but the non-deficient students passed a greater mean number of hours the spring semester of 1949-50 than

did the deficient students. During the fall semester of 1950-51 both groups passed an identical mean number of hours.

TABLE II

MEAN NUMBER OF HOURS PASSED SUCCESSFULLY
BY DEFICIENT AND NON-DEFICIENT GROUPS IN
SUCCESSIVE SEMESTERS IN COLLEGE

GROUP	N	M	SD	SX	CR	.05 Level
1st Semester						
Deficient	39	13.820	1.97	.433	1.235	2.00
Non-Deficient	39	13.384				
2nd Semester						
Deficient	39	13.717	.367	.367	1.541	2.00
Non-Deficient	39	14.282				
3rd Semester						
Deficient	39	14.820	1.97	.384	0	2.00
Non-Deficient	39	14.820				

The non-deficient students increased the mean number of hours passed each consecutive semester. The mean number of hours passed by the deficient students decreased the second semester to less than the mean for the first semester, but the deficient students passed a higher mean number of hours the third semester than they did for either of the two previous semesters.

A comparison of the respective means of the two groups

for the second semester reveals a difference of .565 (14.282-13.717). The standard error of the difference between the two means was .367. The ratio between the difference of the means and the standard error of the difference gave a critical ratio of 1.541. In order for this critical ratio to be significant at the .05 level of confidence the critical ratio would have to have been greater than 2.00 with 75 degrees of freedom. Since the critical ratio did not exceed 2.00 the difference between the means is not statistically significant at the .05 level of confidence.

Mean Number of Quality Points Earned. Scholastic achievement at The College of William and Mary is judged not only by hours passed in any one semester but also by quality points earned in the same semester.

A total of 120 quality points is needed for graduation from The College of William and Mary so an average of fifteen per semester is considered to be sufficient to insure graduation in the eight semesters attended over a four-year period.

Table III presents the data regarding the quality points earned by deficient and non-deficient students for each of the three semesters considered in this study.

TABLE III

MEAN NUMBER OF QUALITY POINTS EARNED BY
DEFICIENT AND NON-DEFICIENT GROUPS IN
SUCCESSIVE SEMESTERS IN COLLEGE.

GROUP	N	M	SD	SX	CR	.05 Level
1st Semester						
Deficient	39	15.641	8.19	1.854	.665	2.00
Non-Deficient	39	16.692				
2nd Semester						
Deficient	39	16.666	7.89	1.786	1.252	2.00
Non-Deficient	39	18.923				
3rd Semester						
Deficient	39	18.897	6.12	1.385	1.499	2.00
Non-Deficient	39	20.974				

A comparison of the mean number of quality points earned by the two groups for each of the three semesters shows that in the second and third semesters there was a marked difference in favor of the non-deficient group. The critical ratios for each of these three semesters, however, indicate that the differences were not significant at the .05 level of confidence.

Both groups earned an increasing number of quality points each successive semester. Both groups had a mean in excess of the desired number of quality points that should be earned per semester in

order to accumulate the necessary 120 needed for graduation.

Results of the Wrenn Study Habits Inventory. The Wrenn Study Habits Inventory was administered to all the students in this study during the fall semester of 1950-51. The significance of the difference between means as determined by the critical ratio was slight. Therefore, in this study, study habits seem not to be responsible for any difference in achievement which might appear between the two groups.

Table IV shows the data obtained from the Wrenn Study Habits Inventory.

TABLE IV

MEAN SCORE FOR EACH GROUP ON THE
WRENN STUDY HABITS INVENTORY

GROUP	N	M	SD	SK	CR	.05 Level
Deficient	39	11.512	47.02	10.645	.686	2.00
Non-Deficient	39	18.820				

Results of the Bell Adjustment Inventory. The effect of a reading deficiency upon home, health, social and emotional adjustment was appraised by comparing the mean scores of each group on the four areas covered by the Bell Adjustment Inventory. The interpretation to be placed upon each area is described in the Manual for the Adjustment Inventory as follows:

- "1. Home Adjustment - Individuals scoring high tend to be unsatisfactorily adjusted to their home surroundings. Low scores indicate satisfactory home adjustment.
2. Health Adjustment - High scores indicate unsatisfactory health adjustment; low scores satisfactory adjustment.
3. Social Adjustment - Individuals scoring high tend to be submissive and retiring in their social contacts. Individuals with low scores are aggressive in social contacts.
4. Emotional Adjustment - Individuals with high scores tend to be unstable emotionally. Persons with low scores tend to be emotionally stable."⁶

⁶ Hugh M. Bell, "Manual for the Adjustment Inventory," Stanford University Press, Stanford University, California, 4 pp.

Table V shows the comparison of mean scores of deficient and non-deficient groups in the four areas covered by the Bell Adjustment Inventory. These students were in their third semester at The College of William and Mary at the time they were measured by the Bell Adjustment Inventory.

TABLE V

MEAN SCORE OF THE DEFICIENT AND NON-DEFICIENT GROUPS ON THE FOUR AREAS OF THE BELL ADJUSTMENT INVENTORY DURING THEIR THIRD SEMESTER AT THE COLLEGE OF WILLIAM AND MARY

AREA AND GROUP	N	M	SD	SX	CR	.05 Level
Home Adjustment						
Deficient	39	5.717	4.52	1.023	.987	2.00
Non-Deficient	39	4.717				
Health Adjustment						
Deficient	39	7.205	4.67	1.057	.485	2.00
Non-Deficient	39	6.692				
Social Adjustment						
Deficient	39	10.461	6.62	.838	.859	2.00
Non-Deficient	39	9.743				
Emotional Adjustment						
Deficient	39	10.692	6.59	1.491	1.960	2.00
Non-Deficient	39	7.769				

Table V reveals that there was no significant difference between the deficient and the non-deficient groups in any of the four areas measured by the Bell Adjustment Inventory because the critical ratios for none of the areas equaled or exceeded 2.00.

Of the four areas appraised by the Bell Adjustment Inventory the only area in which the difference between means approached the significant level was the area of emotional adjustment. In the area of emotional adjustment the critical ratio of 1.960 approached the .05 level of confidence, but was less than that criterion by .04 of a point. If the critical ratio had equaled or been greater than 2.00 it could have been assumed that the deficient group was less well-adjusted emotionally than the non-deficient group due to poor reading ability.

CHAPTER III

SUMMARY OF FINDINGS AND CONCLUSIONS

The purpose of this study was to ascertain the effect a deficiency in reading ability, as revealed by scores on the Diagnostic Reading Test Survey Section, Form A, had upon the scholastic achievement and personal adjustment within a selected group of students at The College of William and Mary.

Summary of Findings Revealed by This Study. This study revealed in the area of scholastic achievement that:

1. The deficient students passed a greater mean number of hours the first semester in college than the non-deficient students. The second semester the non-deficient students passed a greater mean number of hours than the deficient students, and the third semester both groups passed an identical mean number of hours.

2. The non-deficient group of students showed an increasing mean number of hours passed for each consecutive semester. The deficient group had almost an identical mean number of hours passed the second semester as the first semester, but a definite increase was shown for the third semester.

3. There was no significant difference between the mean number of quality points earned by the two groups in any of the three

semesters investigated in this study although the rate of increase for the non-deficient group was slightly greater than the rate of increase for the deficient group during the second semester.

4. Each group increased the mean number of quality points earned each consecutive semester.

5. In each successive semester the significance of the difference between the mean number of quality points earned by the deficient group and by the non-deficient group improves. This increased significance is reflected in the increase in magnitude of the critical ratios concerned and in the third semester approaches the .05 level of confidence.

6. The results on the Wrenn Study Habits Inventory revealed no significant difference between the two groups with regard to study habits.

In the area of personal adjustment this study revealed that:

7. In the areas of home, health, social, and emotional adjustments the non-deficient students had a lower mean score which indicated slightly better personal adjustment on the part of the non-deficient students. The difference between the means, however, was not significant at the .05 level of confidence.

Conclusions. The findings of this study lead to the following tentative conclusions:

1. Reading deficiency, as defined in this study, did not seem to be a critical factor in determining the mean number of hours passed by the two groups.

2. There seemed to be a tendency in the area of quality point averages for the non-deficient group to have a higher mean score than the deficient students.

3. The area of emotional adjustment, as appraised by the Bell Adjustment Inventory, was the only area in which the .05 level of confidence in a significant difference between the two groups was approached.

4. The findings of this study do not demonstrate that a reading deficiency as defined herein is necessarily a barrier to satisfactory scholastic achievement as measured by quality point average.

In conclusion it may be said that even though no significant differences between means were obtained in any of the areas compared in this study there appeared to be trends in the data which favored the non-deficient group. This is not conclusive evidence that reading deficiency has an adverse effect upon successful scholastic achievement or personal adjustment in college, but since the trends in the data favored the non-deficient group, in every instance except two, it is probable that reading deficiency is reflected in the area of scholastic achievement and especially in the area of emotional adjustment at The College of William and Mary.

The results of this study might have been more
conclusive:

- a. had a larger sample of students been used;
- b. had the measuring instruments used been more discriminating;
- c. had the study included a larger number of semesters; and
- d. had the adjustment inventory been administered in each of the semesters included in the study.

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